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<110> Johnson, Jason M.
Castle, John C.
Armour, Christopher D.

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2015 2020 2025

Arg Arg Gln Glu Arg Gly Arg Ser Gln Glu Arg Arg Gln Pro Ser
2030 2035 2040

Ser Ser Ser Ser Glu Lys Gln Arg Phe Tyr Ser Cys Asp Arg Phe
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Gly Gly Arg Glu Pro Pro Lys Pro Lys Pro Ser Leu Ser Ser His
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Pro Thr Ser Pro Thr Ala Gly Gln Glu Pro Gly Pro His Pro Gln
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Ser Pro Ile His Phe Ala Gly Ala Gln Thr Ser Leu Pro Ala Phe
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Lys Gln Asn Cys Phe Thr Val Asn Arg Ser Leu Phe Val Phe Ser Glu
65 70 75 80

Asp Asn Val Val Arg Lys Tyr Ala Lys Arg Ile Thr Glu Trp Pro Pro
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Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys Ile Val Leu
100 105 110

Ala Leu Glu Gln His Leu Pro Asp Gly Asp Lys Thr Pro Met Ser Glu
115 120 125

Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe Cys Phe Glu
130 135 140

Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Val Phe His Lys Gly Ser
145 150 155 160

Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val Val Leu Thr
165 170 175

Gly Ile Leu Ala Thr Ala Gly Thr Asp Phe Asp Leu Arg Thr Leu Arg
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Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly Ile Pro Ser
195 200 205

Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Val Pro Leu Leu
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Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Met Phe Ala Ile Ile
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Gly Leu Glu Phe Tyr Met Gly Lys Phe His Lys Ala Cys Phe Pro Asn
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Ser Thr Asp Ala Glu Pro Val Gly Asp Phe Pro Cys Gly Lys Glu Ala
            260                 265                 270

Pro Ala Arg Leu Cys Glu Gly Asp Thr Glu Cys Arg Glu Tyr Trp Pro
        275                 280                 285

Gly Pro Asn Phe Gly Ile Thr Asn Phe Asp Asn Ile Leu Phe Ala Ile
    290                 295                 300

Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp Ile Leu
305                 310                 315                 320

Tyr Asn Thr Asn Asp Ala Ala Gly Asn Thr Trp Asn Trp Leu Tyr Phe
                325                 330                 335

Ile Pro Leu Ile Ile Ile Gly Ser Phe Phe Met Leu Asn Leu Val Leu
            340                 345                 350

Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu Arg Val Glu Asn
        355                 360                 365

Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Gln Ile Glu Arg Glu
    370                 375                 380

Leu Asn Gly Tyr Leu Glu Trp Ile Phe Lys Ala Glu Glu Val Met Leu
385                 390                 395                 400

Ala Glu Glu Asp Arg Asn Ala Glu Glu Lys Ser Pro Leu Asp Val Leu
                405                 410                 415

Lys Arg Ala Ala Thr Lys Lys Ser Arg Asn Asp Leu Ile His Ala Glu
            420                 425                 430

Glu Gly Glu Asp Arg Phe Ala Asp Leu Cys Ala Val Gly Ser Pro Phe
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Ala Arg Ala Ser Leu Lys Ser Gly Lys Thr Glu Ser Ser Ser Tyr Phe
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Met Ser Leu Lys Met Tyr Gly Leu Gly Pro Arg Ser Tyr Phe Arg Ser
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Ser Phe Asn Cys Phe Asp Phe Gly Val Ile Val Gly Ser Val Phe Glu
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Val Val Trp Ala Ala Ile Lys Pro Gly Ser Ser Phe Gly Ile Ser Val
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Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys Val Thr Lys Tyr Trp
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Ser Ser Leu Arg Asn Leu Val Val Ser Leu Leu Asn Ser Met Lys Ser
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Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe Ile Val Val Phe Ala
610 615 620

Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe Asn Phe Gln Asp Glu
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Thr Pro Thr Thr Asn Phe Asp Thr Phe Pro Ala Ala Ile Leu Thr Val
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Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Ala Val Met Tyr His Gly
660 665 670

Ile Glu Ser Gln Gly Gly Val Ser Lys Gly Met Phe Ser Ser Phe Tyr
675 680 685

Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr Leu Leu Asn Val Phe
690 695 700

Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala Gln Glu Leu Thr Lys
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Asp Glu Glu Glu Met Glu Glu Ala Ala Asn Gln Lys Leu Ala Leu Gln
725 730 735

Lys Ala Lys Glu Val Ala Glu Val Ser Pro Met Ser Ala Ala Asn Ile
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Ser Ile Ala Ala Arg Gln Gln Asn Ser Ala Lys Ala Arg Ser Val Trp
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Glu Gln Arg Ala Ser Gln Leu Arg Leu Gln Asn Leu Arg Ala Ser Cys
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Glu Ala Leu Tyr Ser Glu Met Asp Pro Glu Glu Arg Leu Arg Phe Ala
785 790 795 800

Thr Thr Arg His Leu Arg Pro Asp Met Lys Thr His Leu Asp Arg Pro
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Leu Val Val Glu Leu Gly Arg Asp Gly Ala Arg Gly Pro Val Gly Gly
820 825 830

Lys Ala Arg Pro Glu Ala Ala Glu Ala Pro Glu Gly Val Asp Pro Pro
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Arg Arg His His Arg His Arg Asp Lys Asp Lys Thr Pro Ala Ala Gly
850 855 860

Asp Gln Asp Arg Ala Glu Ala Pro Lys Ala Glu Ser Gly Glu Pro Gly
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Ala Arg Glu Glu Arg Pro Arg Pro His Arg Ser His Ser Lys Glu Ala
885 890 895

Ala Gly Pro Pro Glu Ala Arg Ser Glu Arg Gly Arg Gly Pro Gly Pro
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Glu Gly Gly Arg Arg His His Arg Arg Gly Ser Pro Glu Glu Ala Ala
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Glu Arg Glu Pro Arg Arg His Arg Ala His Arg His Gln Asp Pro Ser
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Arg Arg His Arg Ala Arg His Lys Ala Gln Pro Ala His Glu Ala Val
            980                 985                 990

Glu Lys Glu Thr Thr Glu Lys Glu Ala Thr Glu Lys Glu Ala Glu Ile
        995                 1000                1005

Val Glu Ala Asp Lys Glu Lys  Glu Leu Arg Asn His  Gln Pro Arg
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Glu Pro  His Cys Asp Leu Glu  Thr Ser Gly Thr Val  Thr Val Gly
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Pro Met  His Thr Leu Pro Ser  Thr Cys Leu Gln Lys  Val Glu Glu
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Gln Pro  Glu Asp Ala Asp Asn  Gln Arg Asn Val Thr  Arg Met Gly
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Ser Gln  Pro Pro Asp Pro Asn  Thr Ile Val His Ile  Pro Val Met
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Leu Thr  Gly Pro Leu Gly Glu  Ala Thr Val Val Pro  Ser Gly Asn
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Val Asp  Leu Glu Ser Gln Ala  Glu Gly Lys Lys Glu  Val Glu Ala
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Asp Asp  Val Met Arg Ser Gly  Pro Arg Pro Ile Val  Pro Tyr Ser
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Ser Met  Phe Cys Leu Ser Pro  Thr Asn Leu Leu Arg  Arg Phe Cys
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His Tyr  Ile Val Thr Met Arg  Tyr Phe Glu Val Val  Ile Leu Val
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Val Ile  Ala Leu Ser Ser Ile  Ala Leu Ala Ala Glu  Asp Pro Val
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Trp Asn Ile Leu Asp Phe Ile Val Val Ser Gly Ala Leu Val Ala
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Phe Ala Phe Ser Gly Ser Lys Gly Lys Asp Ile Asn Thr Ile Lys
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Ser Leu Arg Val Leu Arg Val Leu Arg Pro Leu Lys Thr Ile Lys
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Leu Lys Asn Val Leu Asn Ile Leu Ile Val Tyr Met Leu Phe Met
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Phe Tyr Cys Thr Asp Glu Ser Lys Glu Leu Glu Arg Asp Cys Arg
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Gln Ser Phe Lys Ala Leu Pro Tyr Val Cys Leu Leu Ile Ala Met
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Leu Phe Phe Ile Tyr Ala Ile Ile Gly Met Gln Val Phe Gly Asn
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Arg Thr Phe Leu Gln Ala Leu Met Leu Leu Phe Arg Ser Ala Thr
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